



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/853,927	05/09/2001	HORST G. ADOLPH	82,141	7227

7590 12/23/2003

Office of Counsel, Code OC4
Naval Surface Warfare Center
Indian Head Division
101 Strauss Avenue, Bldg. D-326
Indian Head, MD 20640-5035

EXAMINER

MILLER, EDWARD A

ART UNIT	PAPER NUMBER
----------	--------------

3641

DATE MAILED: 12/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/853,927

Applicant(s)

SITZAMANN ET AL.

Examiner

Edward A. Miller

Art Unit

3641

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 September 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 10, 11 and 21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 10, 11 and 21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Art Unit: 3641

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114.

Applicant's submission filed on September 29, 2003 has been entered.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 11 and 21, as best understood, are rejected under 35 U.S.C. 102(b) as being anticipated by or, in the alternative, under 35 USC 103 as obvious over each of Brachert et al., (col. 2, lines 45-54, esp. polyoxymethylenes and polyformals) and Finck et al. (col. 4, lines 58-59 – polyoxymethylenes).

In these claims, R may be CH₂, whereby the claims read on polyoxymethylene per se. To the extent necessary, variation of the molecular weight thereof would have been obvious to one of ordinary skill in the art. It is well settled that optimizing a result effective variable is well within the expected ability of a person of ordinary skill in the subject art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980), *In re Aller*, 220 F.2d 454, 105 USPQ 233 (CCPA 1955).

4. Claims 11-12 and 21, as best understood and without new matter, are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over each of Barnes et al., Hostettler, Genz et al., and Okita et al.

Many prepolymers such as claimed, as best understood, are notoriously well known in the prior art and shown in Barnes et al., Hostettler and Okita et al. Each of these references teach polyformals. In Hostettler, note col. 3, lines 10-16, where oxy-ethylene polymers may contain minor amounts of oxy-methylene groups. In Okita et al., note col. 2, lines 11-16 and 40-44, and col. 7,

Art Unit: 3641

lines 59-65. In Genz et al., note col. 5, lines 35-37. To the extent that the claimed formal moieties are taught or in the chemical structures as shown, properties such as being degradable must be inherent. Even if prepared by another method, the composition is claimed here, and the same thing made by a different method does not become patentable. Where the product appears to be the same or only slightly different, the properties recited would appear to be inherent, regardless of the method of preparation. The Office does not have testing facilities to determine such. The burden falls on applicant to show that the prior art products do not necessarily or inherently possess the claimed properties. *In re Thorpe*, 777 F.2d 695, 697, 227 USPQ 964, 966; *In re Fitzgerald*, 619 F.2d 67, 70, 205 USPQ 594, 596; *In re Best*, 562 F.2d 1252, 1255; 195 USPQ 430, 433-434; *In re Brown*, 459 F.2d 531, 173 USPQ 685. To the extent necessary, variation of well known parameters such as the molecular weight would have been obvious to one of ordinary skill in the art, note the case law applied in paragraph 3 above.

5. Claims 10-11 and 21, as best understood, are rejected under 35 U.S.C. 103(a) as unpatentable over Emmerling et al., in view of Hostetter et al., Okita et al. and Genz et al.

Emmerling et al. teaches the basic invention of polyols, which may be prepared from many precursors. Included in these is hydroxy-terminated polyesters, including from polycaprolactone, col. 2, lines 66-67. Further, in col. 3, lines 1-20, especially lines 5-8, and also lower down in lines 39-42, the use of polyols for reaction may include polyacetals from formaldehyde, e.g. Reaction of such with caprolactone to form the expected polyol as taught would have been obvious. Hostetter et al., Okita et al. and Genz et al., as set forth in the above paragraph, further teach polyols containing formal groups that may be reacted with caprolactone to produce a hydroxy terminated polyester polyol. In Hostetter et al., col. 3, lines 10-16, it is particularly noted that oxy-ethylene polymers may contain minor amounts of oxy-methylene groups. Thus, it is deemed obvious to prepare the desired

Art Unit: 3641

polyols with interior formal groups as claimed, as best as the claims are understood. Variation of specific moieties and amounts including molecular weights would have been obvious to one of ordinary skill, as set forth supra.

6. Claims 10-11 and 21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In the claims, the "R" language is improper and indefinite chemical terminology and does not provide a reasonable definition of the invention. The "R" recitation, that R "is" certain named atoms is indefinite. This reads like there is a container of atoms and that's what R is. This is improper chemical terminology, ignoring the bonding that is requisite for the distinct elements. There is nothing precluding "R" as claimed from being CH_8O_4 . This illustrates the indefiniteness of the recited language, as it is chemically impossible and it is further representative of an infinite number of impossibilities. Thus, the language chosen is totally defective and not in accord with either ordinary skill in the art, or even ordinary chemistry.

There is no correction of the language of claims 10 or 11 to the language of claim 21, e.g., reciting what R is, or the substituent "n". Since in claim 21 the functionality of the formula is precisely 2, how does claim 21 have a different range of functionality? Is there something implied in the formulae, but which is not stated? Does this permit the formula to be endcapped in some instances on average, e.g., so that the formula does not actually require OH termination as stated in the formula? How then are the metes and bounds of the claims to be understood when at least some unstated limitations are not only permitted, but required? The language limiting "R" requires certain atoms including C, H and O, along some undefined "line," being single bonded to each other. This might appear to preclude a double bond for an ester group, which ester $\text{C}=\text{O}$ group is

Art Unit: 3641

arguably along one "line"; is this intended? Does "along a line" require a straight line, whereby no real chemical structure is permitted, in view of the angles inherent in bonding angles? What does "alone a line" mean? What is the antecedent basis therefor? Would a bunch of C and H atoms in the form of para-phenylene or para-xylene, which do form straight planes and which have an absolutely straight axis (line), be permitted by such language? As polycaprolactone of claim 10 includes the ester group, this language of independent claim 21 appears incorrect. The claims are inconsistent. In claim 11, there is no relationship to the functionality limitation of claim 11 and the "n" limitation in claim 21. Are the last three lines of claim 21 only a statement of fact, or does this imply something not stated? If R is $\text{-O-CH}_2\text{-O-}$, oxymethylene, what's to differentiate between oxymethylene "in the backbone", and elsewhere? What is the antecedent basis for "in the backbone"? How does it "consist essentially of" a hydrolyzable moiety? Does this allow substitution of a different, unnamed "hydrolyzable moiety" for a backbone oxymethylene radical? Such renders the claims contradictory, without metes or bounds. In the last line of claim 21, an acid concentration of 2.0 N or less would apparently include pure water, as "less" includes zero by long held case law. Is this intended?

7. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

8. Claims 10, 11 and 21 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement, or as based on a specification which fails to comply with the written description requirement. This is a new matter rejection. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one

Art Unit: 3641

skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. See also paragraph 6 above.

In claim 21, the language used, especially for "R", is new matter. Applicants have not pointed out the basis for this language, and none is apparent. Applicants are required to point out basis for this language or to cancel it. The new language, each word *arguendo* having basis, is such that the new concept, or the new expression as a whole, lacks original basis, when fairly viewed in context. Compare *In re Oda*, 170 USPQ 268, and *Ex part Grasselli*, 231 USPQ 393, as well as MPEP 706.03(o) and 2163-2163.06, where departures (including from cancellations, where each word has basis, but not the expression) from the original disclosure are new matter. Further, *In re Smith*, 173 USPQ 679 (CCPA 1972), speaks to the question of a new subgenus lacking basis when there is an original genus and a species, but without separate basis for the subgenus. In claim 21, consider the language of "atoms along a line are single bonded to each other," referring to R and how R links to the adjacent oxygen atoms in the structural formula of claim 21, line 3. There is no apparent basis for such in the original specification. Basis that exists for "single bonded" can only be found in a the desire to retroactively avoid the prior art, specifically Barnes et al. '493. Barnes et al. is not part of applicants' original specification, but contains a polyformal as originally claimed in claim 21, except that the R moiety is unsaturated. Thus to define thereover, applicants resort to new matter. Further, there is no basis for an R being an unconnected bunch of carbon, hydrogen and oxygen atoms, as recited. There is no basis for a "line". There is no basis for an R radical with elements but without any covalent bonds as in ordinary organic chemistry, as would be inherent in "alkylene" as a substituent. (This is not to state that "alkylene" would be found to have basis, an unexamined proposition.) This language, especially for "R", as used in claim 21, constitutes as series of new subgenus categories, without apparent original basis.


Art Unit: 3641

9. Any inquiry concerning either this or an earlier communication from the Examiner should be directed to Examiner Edward A. Miller at (703) 306-4163. Examiner Miller may normally be reached Monday-Thursday, from 10 AM to 7 PM.

If attempts to reach Examiner Miller by telephone are unsuccessful, his supervisor Mr. Carone can be reached at (703) 306-4198.

If there is no answer, or for any inquiry of a general nature or relating to the application status, please call the Group receptionist at (703) 308-1113.

Miller/em
December 14, 2003



EDWARD A. MILLER
PRIMARY EXAMINER